

## APPENDIX N

### MATERIAL SAFETY DATA SHEETS

MSD are published by the manufacturers of chemicals. They give a wealth of information on the particular products. These are particularly beneficial when a product contains a mixture of ingredients. The MSDS provides you important information about the chemical substance, its hazards, and the procedures to follow to avoid injury and illness. Ensure that all personnel assigned, attached, or working around, read and fully understand the MSDS before they handle any products. The MSDS contains the following general sections. See Figure N-1, pages N-1 through N-6.

#### WARNING

Commanders at all levels must cooperate in community environmental action programs and must comply with the requirements of the Emergency Planning and Community Right to Know Act as best they can. This is a Federal requirement.

- **Hazardous Ingredients/Identity Information (Name and Product).** Lists the substance's hazardous components, chemical identification, and common names. Workers exposure limits to the chemical are included.
- **Physical/Chemical Characteristics.** Includes boiling points, vapor pressure, vapor density, specific gravity, melting point, evaporation rate, water solubility, and appearance and odor under normal conditions.
- **Fire/Explosion Hazard Data.** Lists ways to handle hazards such as fire-fighting equipment and procedures.
- **Reactivity Data.** States whether the substance is stable and which substance and situation to avoid so it will not react.
- **Spill or Leak Procedures and Disposal.** Addresses what to do if the substance spills or leaks, how to dispose of the substance, and what equipment and procedures are needed for cleaning up spills and leaks.
- **Spill or Leak Procedures and Disposal.** Addresses what to do if the substance spills or leaks, how to dispose of the substance, and what equipment and procedures are needed for cleaning up spills and leaks.
- **Health Hazards Data.** States how chemicals could enter the body, such as inhaling, penetrating the skin, and swallowing. Discusses the possible hazards that could come from exposure, and lists chemicals that may be carcinogens.
- **Special Protection Information.** List ways to reduce harmful exposure as well as special work or hygiene practices that should be followed.
- **Special Handling and Storage Precautions.**
- **Hazardous Ingredients.**
- **Other Information.**

#### DoD Hazardous Materials Information System

This system produced by DoD, provides information on labeling requirements, chemical characteristics, physical characteristics, health effects, safety precaution, handling procedures, fire fighting, and spill procedures for chemical in the DoD supply system. Hazardous Materials are listed in the HMIS in order of its NSN (the last nine digits). If you only know the part number, trade name, FSCM, or specification number, sections at the back of the HMIS may give you a cross reference to the NSN. HMIS currently contains more than 40,000 product entries. The system is available through a microfiche set, magnetic tapes, and CD-ROM. HMIS is designed to suit the normal informational needs Of DoD personnel involved in emergency response, safety, industrial hygiene, storage, handling, and transportation. A separate section of the HMIS which is now available is devoted to disposal considerations. All data are republished in their entirety on an annual basis with updates each quarter.

**DOD Hazardous Materials Information System**

**DOD 6050.5-LR**

**As Of April 1997**

**Proprietary Version – For U.S. Government Use Only**

FSC: 9130

NIIN: 010315816

Manufacturer's CAGE: 0HIN7

Part No. Indicator: A

Part Number/Trade Name: JP-8 JET FUEL

**General Information**

Item Name: TURBINE FUEL, AVIATION

Company's Name: SUNBELT REFINING CO

Company's Street: 5415 E RANDOLF RD

Company's P.O. Box: 2179

Company's City: COOLIDGE

Company's State: AZ

Company's Country: US

Company's Zip Code: 85228-2179

Company's Emerg Ph #: 602-723-9585, 800-424-9300 (CHEMTREC)

Company's Info Ph #: 602-723-9585

Distributor/Vendor #1:

Distributor/Vendor #1 Cage:

Distributor/Vendor #2:

Distributor/Vendor #2 Cage:

Distributor/Vendor #3:

Distributor/Vendor #3 Cage:

Distributor/Vendor #4:

Distributor/Vendor #4 Cage:

Safety Data Action Code:

Safety Focal Point: D

Record No. For Safety Entry: 003

Tot Safety Entries This Stk#: 027

Status: SE

Date MSDS Prepared: 200CT92

Safety Data Review Date: 04JAN93

Supply Item Manager: KY

MSDS Preparer's Name:

Preparer's Company:

Preparer's St Or P.O. Box:

Preparer's City:

Preparer's Zip Code:

Other MSDS Number:

MSDS Serial Number: BPQWL

*Figure N-1. Material Safety Data Sheets*

Report for NIIN: 010315816

Specification Number: MIL-T-83133

Spec Type, Grade, Class: JP-8

Hazard Characteristic Code: F4

Unit Of Issue: GL

Unit Of Issue Container QTY: BULK

Type Of Issue Container: BULK

Net Unit Weight: BULK

Report for NIIN: 010315816

NRC/ State License Number: N/R

Net Explosive Weight:

Net Propellant Weight-Ammo: N/R

Coast Guard Ammunition Code:

#### **Ingredients/Identity Information**

Proprietary: NO

Ingredient: KEROSENE

Ingredient Sequence Number: 01

Percent: 100%

Ingredient Action Code:

Ingredient Focal Point: D

NIOSH (RTECS) Number: 0A5500000

CAS Number: 8008-20-6

OSHA PEL: 100 PPM

ACGIH TLV: 100PPM 9091

Other Recommended Limit: 100 PPM (MFG)

Proprietary: NO

Ingredient: BENZENE (SARA III)

Ingredient Sequence Number: 02

Percent: <0.1%

Ingredient Action Code:

Ingredient Focal Point: D

NOISH (RTECS) Number: CY1400000

CAS Number: 71-43-2

OSHA PEL: 1 PPM/5STEL1910.1028

ACGIH TLV: 10 PPM; A2; 9293

Other Recommended Limit: NONE SPECIFIED

*Figure N-1. Material Safety Data Sheets (Cont.)*

Report for NIIN: 010315816

**Physical/Chemical Characteristics**

Appearance And Odor: CLEAR LIQUID WITH PARAFFINIC ODOR.

Boiling Point: 300F, 149C

Report for NIIN: 010315816

Melting Point: UNKNOWN

Vapor Pressure (MM Hg/70 F): <10 MM

Vapor Density (Air=1): 4 (AIR=1)

Specific Gravity: 0.77-0.84

Decomposition Temperature: UNKNOWN

Evaporation Rate and Ref: UNKNOWN

Solubility In Water: NEGLIGIBLE

Percent Volatiles By Volume: N/K

Viscosity:

PH: N/K

Radioactivity:

Form (Radioactive Matl):

Magnetism (Milligauss): N/P

Corrosion Rate (IPY): UNKNOWN

Autoignition Temperature:

**Fire and Explosion Hazard Data**

Flash Point: 100F, 38C

Flash Point Method: TCC

Lower Explosive Limit: 0.5

Upper Explosive Limit: 6.0

Extinguishing Media: FOAM, DRY CHEMICAL, CARBON DIOXIDE, WATER-FOG SPRAY.

DO NOT USE A DIRECT STREAM OF WATER.

Special Fire Fighting Proc: USE WATER SPRAY TO COOL FIRE-EXPOSED

CONTAINERS, STRUCTURES, AND PROTECT PERSONNEL. USE FOAM TO BLANKET LIQUID.

USE AIR-SUPPLIED RESPIRATOR EQUIPMENT.

Unusual Fire And Expl Hazrds: VAPORS MAY FORM EXPLOSIVE MIXTURES WITH AIR.

VAPORS HEAVIER THAN AIR AND MAY TRAVEL CONSIDERABLE DISTANCE TO SOURCE OF IGNITION AND FLASH BACK.

CONTACT MAY CAUSE IRRITATION, BURNING, DERMATITIS, IRRITATION OF NOSE AND THROAT, HEADACHES, DIZZINESS, AND LOSS OF CONSCIOUSNESS. INGESTION: MAY CAUSE IRRITATION OF DIGESTIVE TRACT.

*Figure N-1. Material Safety Data Sheets (Cont.)*

Report for NIIN: 010315816

Carcinogenicity- NTP: NO

Carcinogenicity- IARC: NO

Carcinogenicity-OSHA: NO

Explanation Carcinogenicity:

Signs/Symptoms Of Overexp: EYES: IRRITATION, BURNING, REDNESS, TEARING.

SKIN: IRRITATION, BURNING, REDNESS, DERMATITIS. INHALATION: NOSE AND THROAT

IRRITATION, HEADACHE, LOSS OF COORDINATION, DIZZINESS, LOSS OF CONSCIOUSNESS. INGESTION: IRRITATION OF DIGESTIVE TRACT.

Med Cond Aggravated By Exp: PERSON WITH PRE-EXISTING DISEASE INVOLVING EYES, SKIN, OR RESPIRATORY TRACT MAY BE AT INCREASED RISK FROM EXPOSURE. ALSO ALLERGIES, ASTHMA, HAY FEVER, SKIN CONDITIONS OR OPEN SORES MAY BE AGGRAVATED.

Emergency/First Aid Proc: EYES: FLUSH WITH LARGE AMOUNTS OF WATER. IF IRRITATION PERSISTS, GET MEDICAL ATTENTION. SKIN: REMOVE CONTAMINATED CLOTHING. WASH

AREA WITH SOAP AND WATER. INHALATION: MOVE TO FRESH AIR. IF NOT BREATHING GIVE CPR. IF BREATHING DIFFICULT GIVE OXYGEN. GET MEDICAL ATTENTION. INGESTION: DO NOT INDUCE VOMITING. GET MEDICAL ATTENTION.

#### **Precautions for Safe Handling and Use**

Steps If Matl Released/Spill: WEAR RESPIRATORY PROTECTION. STOP FLOW. ELIMINATE IGNITION SOURCES. CONTAIN SPILL BY DIKING. KEEP PRODUCT OUT OF SEWERS AND WATERWAYS. RECOVER LIQUID WITH VACUUM TRUCK. ABSORB RESIDUE WITH ABSORBENT AND PLACE WASTE IN PROPER CONTAINER FOR DISPOSAL.

Neutralizing Agent: NONE SPECIFIED BY MANUFACTURER.

Waste Disposal Method: DISPOSE OF WASTE MATERIAL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS. NOTIFY AUTHORITIES OF ANY SEWER, WATERWAY OR EXTENSIVE LAND CONTAMINATION.

Precautions-Handling/Storing: STORE IN COOL, WELL VENTILATED AREA AWAY FROM HEAT, SPARKS, OPEN FLAMES AND STRONG OXIDANTS. KEEP CONTAINERS CLOSED AND PROTECT FROM PHYSICAL DAMAGE.

Other Precautions: REMOVE OIL-SOAKED CLOTHING PROMPTLY. IF MATERIAL IS ACCIDENTALLY RELEASED IN A CONFINED AREA, PROVIDE ADEQUATE VENTILATION.

#### **Control Measures**

Respiratory Protection: USE NIOSH/MSHA APPROVED RESPIRATOR. USE SUPPLIED-AIR EQUIPMENT IN CONFINED SPACES. USE ORGANIC VAPOR RESPIRATOR IN OPEN AREAS IF NECESSARY.

Ventilation: USE LOCAL EXHAUST VENTILATION IN CONFINED WORKING AREA.

EXPLOSION-PROOF MECHANICAL VENTILATION RECOMMENDED.

Protective Gloves: NITRIL OR PVC GLOVES.

Eye Protection: GOGGLES OR FACESHIELD IF SPLASHING.

*Figure N-1. Material Safety Data Sheets (Cont.)*

Report for NIIN: 010315816

Other Protective Equipment: SPLASH APRON TO AVOID CLOTHING CONTAMINATION AND REPEATED SKIN CONTACT. PROVIDE AN EYEWASH STATION AND SAFETY SHOWER.

Work Hygienic Practices: WASH AFTER HANDLING AND BEFORE EATING, DRINKING, OR SMOKING. LAUNDER CONTAMINATED CLOTHING BEFORE REUSE.

Suppl. Safety & Health Data: DON NOT EAT OR SMOKE WHILE USING THIS PRODUCT.

*Figure N-1. Material Safety Data Sheets (Cont.)*